

# NCE

NAVY CIVIL ENGINEER

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*PPV Works*

Low Navy Investment,  
High Navy Family Value

*What a Blast*

Demolition and Other  
Fun at China Lake

RENOVATING THE

## NAVY'S FIRST HOSPITAL

*Restoring the Fabric of History*





# NAVY CIVIL ENGINEER

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*Cover photo by John E. Peters*

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# RENOVA- TING NAVY HOSPITAL PORTS- MOUTH

STORY  
& PHOTOGRAPHS  
BY  
JOHN E PETERS





It was a daunting challenge: Renovate a 170-year old historic building, the Navy's first hospital, into a modern administrative facility while preserving the historical nature of the original structure.

The original work on Bldg. 1 at Naval Medical Center Portsmouth, Va., began on April 2, 1827. This ancestral structure remained in use as a medical facility even after a new high-rise hospital was built in 1960, up until April 1999, when a new hospital opened.

John Haviland, a prominent Philadelphia architect, designed it in the Greek Revival style. The original building is "U" shaped, four stories tall, with an impressive Doric portico above a raised basement, today's first floor.

In 1907, the Washington, D.C. architectural firm of Wood, Donn, and Deming

designed the first major renovations and additions to the Naval Hospital, consisting of new wings on each side of the original building. Extensive interior alterations included fireproof floors and walls, and "modern" heating and lighting systems, the first elevators and a fifth-floor operating suite with a domed roof. This construction spanned a period of 1907 through 1910 and was completed by the George A. Fuller Construction Company.

In 1941, the "outside" wings, designed by Richmond, Va., architect Merrill C. Lee, were added to the rear of the 1907 wings. The four-story open balconies on each side of the 1827 wings were removed in 1951 and were replaced by reinforced concrete porch enclosures.

Because Bldg. 1 is a

historic structure, significant preparatory work had to be done before the renovation could begin. Section 106 of the National Historic Preservation Act requires federal agencies to consult with the Advisory Council on Historic Preservation (ACHP), an independent federal agency, and the State Historic Preservation Officer (SHPO) to avoid, minimize, or mitigate undertakings that may affect historic properties. Consultation was initiated in the late 1980s to resolve the effects of the Replacement Hospital Project on historic resources at the Portsmouth site.

Then president of Newbill and Beale, Inc. Architects, LANTDIV Historical Architect Mike Newbill served as the project's principal historical architectural consultant, the architect of record for the acute care facility and

provided services to implement several stipulations of the MOA. He subsequently served as principal architectural consultant to Shriver and Holland, Architects, for the design of the Bldg. 1 rehabilitation project and was primarily involved with the stabilization of the front facade of the 1827 portion of the structure and the exterior painting of the 1907 wings. In 1996, he recused himself from further involvement with the medical center redevelopment after joining LANTDIV.

The effort initially began under the management of OICC Naval Hospital, established in 1989 to manage the 10-year redevelopment. The OICC was disestablished in April 2000, and the Bldg. 1 renovation continued under the management of ROICC Portsmouth. The \$18 million





renovation that took the hospital building down to the original walls was begun in August 1999 and completed in October 2002.

The project was awarded to Snap Contracting Corp., a local small-business contractor. Joe Callahan was the project engineer and Richard Taylor was the construction representative for ROICC Portsmouth.

"For a small contractor, they have exceeded my wildest dreams with how they finished this job," said Callahan. "This was true partnering between Snap and the Navy," he added. "Company president John Saafi and project manager Dick Welch were intimately involved from start to finish and took great pride in this job."

The renovation is one of the final phases of the medical center's \$400 million transformation begun in 1990, adding a million square feet of sorely needed medical treatment space in a new acute care facility. Other phases added a parking structure, expanded the central energy plant, relocated facilities, and upgraded utilities and surrounding roads.

The comprehensive interior and exterior project converts the former four-story hospital into administrative space for the commanding officer and staff, adds a medical library and patient records holding area. The design includes renovation of original architecture (exterior sandstone, wood trim and staircases); significant asbestos and lead abatement; significant structural upgrades and addition of HVAC systems. The 1941

wings were removed and a pedestrian bridge connecting Bldg. 1 and the new Charette Health Care Center was added.

Perhaps not surprisingly, the program took a little longer than expected. The contract originally awarded for \$12.2 million is now valued at \$18.5 million, Callahan explained, "because we had \$6 million in changes."

Because of the nature of the unforeseen conditions and structural problems, some pre-planned work phasing couldn't be done in sequence. Complicating

factors were the lack of as-built drawings for a large portion of the structure — and a surprising number of undocumented mutations and other odd mods done to it over 170 years of use and upgrades.

Unforeseen conditions discovered once the renovation began included additional asbestos and lead abatement; structural problems where load-bearing walls had been breached; abandoned underground utility tunnels and obsolete underground facility foundations. Many windows were in worse condition

than anticipated and had to be rebuilt rather than repaired. Piping, ductwork and conduit conflicts above ceilings had to be resolved, along with roof problems that included termite damage.

The list goes on. The 1910 renovation had used terracotta tiles in the ceilings for fireproofing — now a non-starter for that purpose, of course. Several previously unknown fireplaces were discovered during the renovation, along with one room that had apparently been involved in a fire. The



## The rules:

A Memorandum of Agreement stipulated that DoD, Naval Hospital and LANTDIV would adhere to a number of strictures:

- 1) Ensure renovations to Bldg. 1 would be compatible with the historic and architectural character of the Portsmouth Naval Hospital Historic District
- 2) Ensure renovations be consistent with recommended approaches set forth in the Secretary of the Interior's "Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings"
- 3) Submit the rehabilitation plans and specifications for Bldg. 1 to the Virginia SHPO
- 4) Determine the feasibility of renovating the exterior of Bldg. 1 (primarily the 1827-era rear wings) to recreate their historic appearance
- 5) Develop a cyclical maintenance plan in consultation with Virginia SHPO and ensure its implementation
- 6) Record Bldg. 1 in accordance with Historic American Building Survey (HABS) documentation standards.



**N**aval Medical Center, Portsmouth, Va., is the oldest operating hospital in the U.S. Navy. Architect John Haviland, of Philadelphia, designed and supervised construction of the original hospital, the Navy's first. Work began on April 2, 1827, and a portion of the building was occupied in July 1830.

The hospital has been a witness to history more than once. During the Yellow Fever epidemic of 1855, it also served civilians from nearby towns, treating 600 cases of the disease. On April 17, 1861, the Virginia State Convention voted to secede from the Union — and only three days later, the Third Virginia Regiment occupied the hospital and renamed it Fort Nelson. Wounded from the naval battle between the ironclads *USS Monitor* and *CSS Virginia* were treated there. In May 1862, the hospital was retaken by the Union Army and was eventually returned to the U.S. Navy.

To accommodate the ever-increasing demands, Congress authorized funding for a new hospital in 1952, with the design for the building starting in 1955. Construction began in 1956 and a new hospital building with a capacity of 778 beds was completed in 1960 at a cost of \$15 million.

In 1988, a comprehensive study of the long-range military health care needs in Hampton Roads recommended a new hospital as the solution to many deficiencies with the existing installation. The study evaluated seven options, ranging from building a completely new hospital to contracting all medical care to the private sector.

The decision to build a new facility was based on several factors. The Navy would spend about \$40 million less each year to provide health care in an upgraded hospital than it would to rely solely on the private sector. Second, physical limitations and layout of the existing high-rise building, which was designed to provide inpatient care, could not be overcome through renovation to be compatible with the modern emphasis on outpatient care. Third, construction of a new facility would be least disruptive to maintaining current hospital services.

The new hospital design creates a modern health care facility but doesn't overshadow Bldg. 1, the historic original hospital. The \$400 million redevelopment project, begun in 1990, adds one million square feet of medical treatment space in a new acute care facility. The new facility includes sophisticated modern equipment and technologies, including hyperbaric chambers, magnetic resonance imaging and a linear accelerator. The full spectrum of inpatient and outpatient care offers 40 medical specialties.

During the hospital's redevelopment, 39 buildings were demolished and were replaced by various new facilities, including a parking garage, public works building, gymnasium and a central energy plant. Ninety percent of the site's utilities were replaced. The \$167 million Charette Health Care Center acute care facility was completed Oct. 31, 1998, and opened in April 1999.

Bldg. 1 and portions of Bldg. 215 will be renovated to provide logistical support and improved administrative functions. Bldg. 1 was complete in 2002 and Bldg. 215 will be completed this year.

— JEP





damage had been covered up, but not been repaired.

The primary historic and architectural integrity feature retained from the original 1827 structure is the impressive formal façade constructed of Aquia Creek sandstone, the same material used for The White House and the U.S. Capitol. Architectural conservators determined that the stone had originally been painted, although there was very little visual evidence of this when project planning commenced. Historical paint specialists identified the original colors employed in the stabilization.

The stone and its mortar joints exhibited various levels of decay. A conservation treatment was selected

to repair the deteriorated stone with special stone patching mortars matching the physical properties of the Aquia Stone. A finish of breathable masonry coatings was carefully applied, designed to protect from the elements but not trap moisture within the wall assemblies.

The goal of preserving legacy while serving future medical needs was a tricky one to meet.

"The historic and architectural integrity of the interior spaces is limited," Mike Newbill admitted.

"Although the general organization of the Haviland plan is still evident and the basement storage area below the front steps, called the dungeon, remains

largely intact, extensive changes have occurred over time throughout the building." Many modifications, of course, had occurred well before the modern realization of rules governing changes made today and in the future.

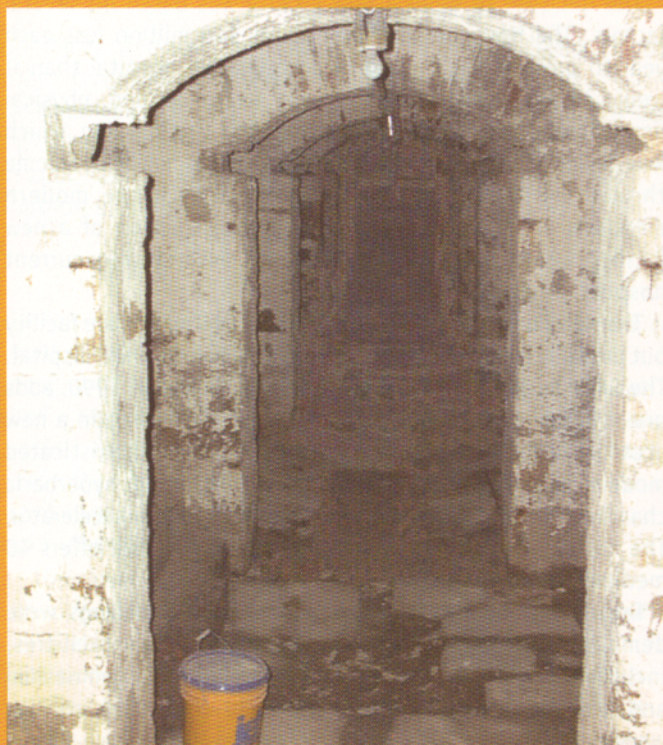
In the last phase of the medical center's redevelopment, Bldg. 215, the 18-floor high-rise hospital, is being refreshed for administrative and medical support space. A \$45 million contract was awarded to J.A. Jones in March 2000, with project completion expected this calendar year.

According to Newbill, some important Bldg. 1 features that survived from the 1907-1910 period have achieved

significance in their own right. The marble entrance vestibule, central foyer and main stairway, and several fireplaces are only a few such highlights.

The contemporary rehabilitation project has respected and retained those features. In other areas, structural and mechanical alterations between 1910 and the 1990s – and a lack of governing regulations over much of that time — resulted in some loss of historic original design integrity.

"Building 1 still effectively expresses an architectural character of impressiveness, dignity and strength, as well as reflecting the stability of the installation's medical values," Newbill said. 🌐



*When wall surfaces came down, evidence of past chapters in the hospital's storied history came to light. Few of the mysteries were solved, or even solvable. A fire that probably occurred scores of years ago (left) was found covered up instead of repaired. The facility basement, the "dungeon" (right), definitely looked the part, complete with low ceilings and damp masonry walls.*



## BEFORE

## AFTER

*Administrative space*



*Medical library*



*Staircase*





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